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2-6-52

RT-6- OSC COIL CALCULATIONS

f	(CALCULATED) L X_L	L	C
		μh	μμf
3	310	16.4	170
7	720	16.4	32
5.3	178	5.36	170
7.0	236	5.36	96 ✓
11.0	371	5.36	39
12.0	405	5.36	32
7.5	126	2.68	170
11.0	185 ✓	2.68	78.2
16.5	278	2.68	34.6
17.0	286	2.68	32.0

16.4
8.5
4.25

ACTUAL VALUES FROM "Q" METER

f	C	L	Q	Q CALCULATED X_L
7	93.4	5.65 μh	140	248.5
11.5	32	5.65 μh.	136	409.0
11.0	86.5	2.4	125	165.5
16.5	35.0	2.4	117	248.0
3.0	173	16.3	160	308.0
9.0	29 Δ144	16.3	180	717.5

COIL DATA

#30 ENAM. WIRE SPACED WIRE DIAM.

COIL DIAM = 15/32 CORE = G2 - .75 long 3/8 dia ✓✓

TOTAL TURNS = 31

TAP 1 : 10 DOWN FROM PLATE

TAP 2 = 16 DOWN FROM PLATE

Q @ 16.3 μh = 155

SEE ABOVE CHART.

EXPERIMENTAL VALUES ✓

STAT

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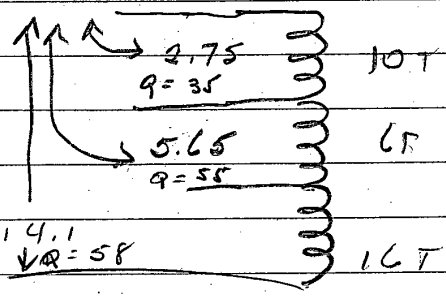
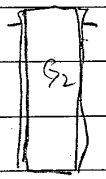
14.

5.7





STAT

#26

29T = 16.6 Q=100

G2 SLUG 3/8 diam

COIL FORM diam = 15/32

EXPERIMENTAL VALUES

#30 ENAM. WIRE Spaced wire diam.

16.3 - uh Q=155

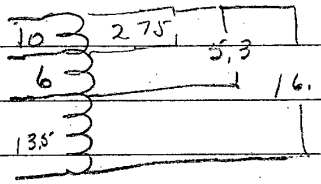
TOTAL TURNS - 29.5

COIL LENGTH 5/8"

10 = 2.75

16 = 5.3

29.5 : 16.3



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	X	F	CMAX	CMIN
16.4 mh	310	3.0	170	
16.4 mh	7.20	7.0		3 x
5.36	17.8	5.3	170	
	4.05	12.0		3 x
	236	7.0	96	
	371	11.0		39
2.68	1.26	7.5	170	
	286	17.0		3 x
	185	11.0	78.2	
	278	16.5		34.6

STAT

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L = 16.4 μh = TOTAL L FOR 3-7 MC RANGE) 3+T

2.68 μh = L REQUIRED FOR TAP 1 (~~7 TO 3.5 RANGE~~ (10T)

5.36 μh = L REQUIRED FOR TAP 2 (3+T)

COIL DIAM = 5/8"

" L = 7/16

L/D = .625" / .4375

WITH 16.4 μh	C = 170 μμf MAX	3 V MIN
WITH 5.36 =	~~C~~ f 5.3	7 ~~10~~ 12
WITH 2.68	7.5	- 17

STAT

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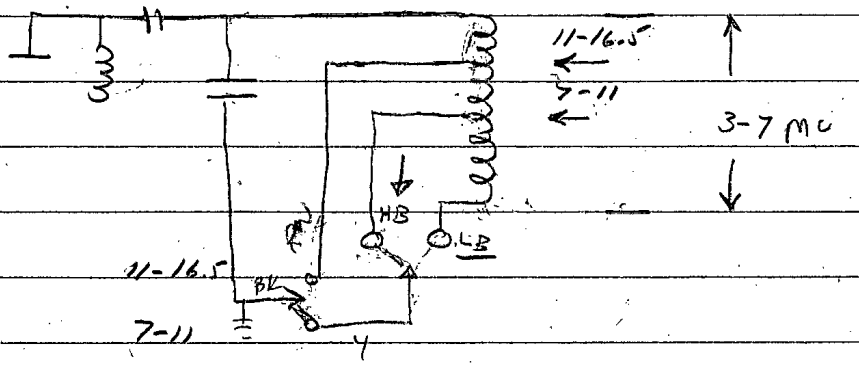
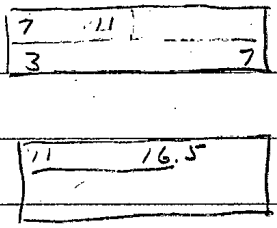
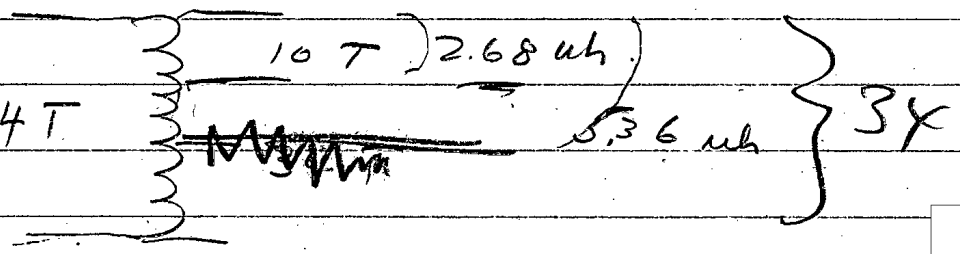
RS-6 OSCILLATOR COIL





TOTAL COIL INDUCTANCE	16.4 uh	Q = 125 (2.5 mc)
HIGH BAND INDUCTANCE	2.68 uh.	
REQUIRED FOR SPLIT BAND	5.36 uh	

STAT



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OSC COIL DATA 2-11-52

f	C	L	Q
		19.7	140
3.0	143	19.7	150
~~7.0~~ 6.3	30 113	19.7	165
		6.5	135
17.0	8 V	5 6.5	135
~~11.5~~ 11.0	30.5	6.5	130
		2.875	115
31.0	70.5	2.875	118
16.5	30.0	2.875	100

ABOVE FROM Q METER AFTER ADDING TURNS TO GIVE:
TOTAL TURNS = 37
TAP 1 = 11 DOWN FROM PLATE
TAP 2 = 17 DOWN FROM PLATE
Q AT 19.7 = 140
SEE ABOVE

TAP 1 WITH 10 TURNS = ~~2.40~~ 2.875 mh
TAP 1 " 11 " = 2.875 mh.
DIFF = .475 mh

TAP 2 WITH 16 TURNS = 5.45 mh
" " " 17 " = 6.5
DIFF = .85 mh.

TOTAL WITH 31 TURNS = 16.3
" " 37 " = 19.7
6 TURNS DIFF = 3.4 mh.

STAT

SEE FOLLOWING PAGES FOR FINAL RESULTS

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2-17-52

OSC COIL
freq range IN RS-6.

LOW BAND
C MAX = 2.5 MC
C MIN = 7.25 MC ✓
3.5 BLUE SCALE = 3.0 MC
7.0 BLUE SCALE = 7.0 MC.

HI BAND - (MIN) (7-11 RANGE)
C MAX = 5.0 MC.
C MIN = 13.5 MC ✓ 11.5
9.5 RED SCALE = 7.0 MC
14.0 RED " = 11.5 MC

HI BAND (11-16.5 RANGE)
C MAX = 7.25 MC
C MIN 19.75 MC - 16.5 ✓
1.0 Red Scale = 11.0 MC
14.0 " " = 16.5 MC

CONCLUSION TAP COIL AT 12 & 18

STAT

SEE NEXT PAGE

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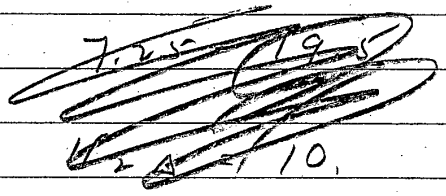

HI BAND (11-16.5)

MIN = 19.75 CMAX = 9.75

14.0 RED = 16.5

10 " = 11.0 MC CMIN = 19.75

HI BAND (7-11

9.5 Red = 7.0 MC. CMAX = 5.50

14.0 Red = 11.5 CMIN = 13.5

C max = 2.5

3.5 Blue = 3.0

7.0 Blue = 7.0 mc.

MIN = 7.25

STAT

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OSC COIL 2-11-52

FREQ. RANGE 5-6.

LOW BAND
CMAX = 2.5 MC.
CMIN = 7.75
3.5 BLUE SCALE = 3.0 MC
7.0 BLUE SCALE = 7.0 MC

HI BAND (MID) 7-11 RANGE
CMAX = 4.7
CMIN = 12.2 MC
9.8 Red = 7.0
15.0 Red = 11.75

HI BAND 11-16.5 RANGE
CMAX = 6.5 MC
CMIN = 16.5 MC.
16.5 Red = 16.5 MC
11.0 Red = 11.0 MC.

37 T. TOTAL
#1 TAP 12 T
#2 TAP 18 T

SEE NEXT PAGE

STAT

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2-12-57

RT-6 OSC COIL

"Q" METER READINGS

TURNS TOTAL = 37 Take off turns @ L = 20.5 mh. Q = 135

TAP #1 = 12 L = 6.6 mh Q = 130

" #2 = 18 L = 3.075 mh. Q = 118

Cmax @ 3.0 MC = 137 mmf Q = 145

C min @ 6.2 MC 30 mmf Q = 160

Cmax @ 7.0 MC 80 mmf Q = 130

C min @ 11.0 MC 30 mmf Q = 125

Cmax @ 11.0 66 mmf Q = 132

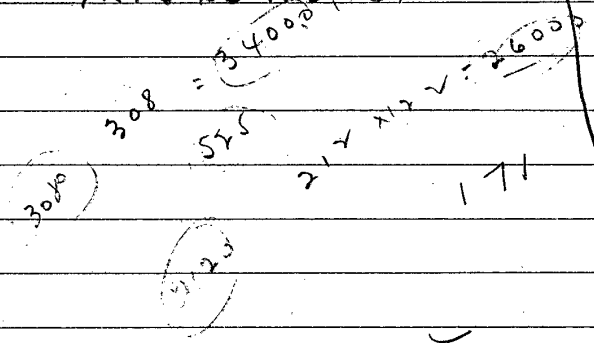
C min @ 15.75 30 mmf Q = 110

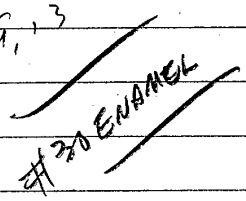
TOTAL TURNS = 33 SEE BELOW L = 16.6 Q = 145

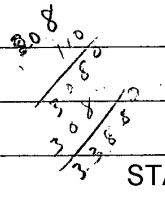
Cmax @ 3.0 MC = 170 mmf Q = 155

Cmin @ 6.85 = 30 mmf. Q = 170

TAPS AS ABOVE.







FINAL CONCLUSION ON OSC COIL

STAT

2-15-57

REMOVED 2 TURNS FROM PLATE END OF COIL MAKING TOTAL = 31 TURNS. STAT

TAP #1 = 10 FREQ RANGES OF COIL

TAP #2 = 16 MADE ON GRID DIP METER.

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